

To ensure success two points require special attention. First, the operation must be carried out with every precaution against sepsis, and so it must not be attempted in cases where the eyeball is in a state of active suppuration; and, secondly, the sutures must hold the conjunctiva in accurate position over the paraffin. It is important to see that an equal grip is taken of the conjunctiva all around the free edge, and that too wide an interval is not left between the stitches.

There were four failures in Ramsay's 22 cases. In one case after the enucleation of a supporting eyeball pus appeared in the socket and set up so much inflammatory reaction that the stitches were removed and the moulded paraffin allowed to escape. In 3 cases the paraffin came out through inefficiency of the stitching. The 18 remaining cases gave a satisfactory cosmetic result, with free movement of the prothesis.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF

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Symposium on Snake Venom: 1. The Poison of Serpents, MITCHELL. 2. Venom and Antivenene, MCFARLAND. 3. A Comparative Study of Snake Venom and Snake Sera, NOGUCHI (*Proceedings of the Pathological Society of Philadelphia*, February, 1903, vol. vi., No. 4).—Mitchell opened this symposium with an interesting historical introduction. Bonaparte had indicated the albuminous character of snake poison in 1843. Mitchell began his researches on snake venom in 1857, and at intervals continued them until 1899, both alone and in connection with Reichert and Stewart. The general toxicity, pathology, and action of venom on the blood were so completely worked out as to leave only a few points undetermined. During the last two years Flexner and Noguchi have worked on snake poison in the light of the recent important theories of immunity inaugurated by Bordet and Ehrlich.

Calmette has succeeded in immunizing horses against cobra poison by heating the venom to 70°, which removed the local irritating poison while not affecting the neurotoxin. McFarland began immunizations with cobra venom on Calmette's principle. On turning his attention to immunization against rattlesnake venom, an extremely irritative local poison made the injection of large animals wellnigh impossible. At the end of a year, however, the horse serum possessed protective powers against the neurotoxic

principle of both cobra and rattlesnake venom and gave precipitates with rattlesnake venom markedly, and with cobra venom to a less extent.

The work of Flixner and Noguchi has been important as confirmatory of Ehrlich's lateral chain theory of immunity. It was found that the various venoms act as an intermediary body to bring about hæmolysis of the blood of susceptible animals in presence of the blood serum, which completes the hæmolysis by its complementing action. In most cases, in the absence of serum, no hæmolysis takes place. Whenever it does, however, the lysis of the corpuscles has been shown by Kyes to be due to an endocomplement within the blood cells. Unmodified snake serum also produces hæmolysis, but when heated to destroy the complement is not hæmolytic, and does not recover complement from the serum of the alien blood, in this respect differing in its action from venom. Venom itself when fresh contains no complement, but is reactivated by snake complement as well as by the complement of susceptible bloods. The serum of animals inoculated with heated rattlesnake serum protects against the hæmolytic action of rattlesnake serum, and the venoms of rattlesnake, cobra, and moccasin.

The Pancreas in Cirrhosis of the Liver.—STEINHAUS (*Deut. Arch. f. klin. Med.*, 1902, Bd. 74, p. 537) made a study of the pancreas in twelve cases of cirrhosis of the liver. In all, except one instance, the pancreas showed a more or less grave chronic inflammation. The one exception was a typical case of Laennec's cirrhosis of the liver. The chronic inflammatory changes in the pancreas consisted in a connective tissue growth, which was sometimes of a perilobular type, sometimes of a periacinar type, and although occasionally the parenchyma of the organ was in large part replaced by fibrous tissue, in no case were the islands of Langerhans involved. These structures appeared to be normal in every case. A transient glycosuria was noted in one case, and the author calls attention to the possible relation which may exist between chronic inflammatory lesions of the pancreas and the alimentary glycosuria of cirrhosis of the liver.

Ring Bodies (Nuclear Remnants) in Anæmic Blood.—CABOT (*Journal of Medical Research*, 1903, vol. ix. p. 15), using Wright's modification of Leishmann's stain in studying the blood from cases of anæmia, observed peculiar stained ring formations within certain of the red blood corpuscles. These figures were seen in three cases of pernicious anæmia, four of lead poisoning, and one of lymphatic leukæmia. Unlike the ordinary basophilic granulations found so often in the red blood cells from cases of lead poisoning and pernicious anæmia, these figures stained not blue, but bright red. The rings were quite perfect. They varied in size: in some instances being very small, in others encircling the extreme periphery of the corpuscle. Rarely they were twisted or had a figure-of-eight form. Occasionally basophilic granulations were noted in the same corpuscle which contained a ring body. Such figures did not appear in blood specimens stained with hæmatoxylin. The author believes that they may be connected in some manner with cell regeneration, and suggests that they may represent nuclear remains, or, perhaps, portions of the nucleus which have resisted those forces destructive to it, and ultimately to the cell itself.